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ABSTRACT

The writing-reading process is a total interacting system comprising four subsystems: the writer, the text, the reader, and the context. A model of the complex interactions among these four subsystems is useful to the extent that it provides a framework for established facts, and in so far as it explains phenomena and suggests hypotheses. While syntax or grammatical structure may account for arrangements among lexical items within the sentence, cohesion refers to the nonstructural resources of language needed to account for relations between sentences. When writers introduce people, objects, and places and then keep track of these, the type of cohesion principally used is reference; co-reference maintains this relationship of identity. Conjunction is the type of cohesion when writers use an explicit connective to join one section of a text to another. Lexical items drawn from a restricted domain provide lexical cohesion. Texts lacking these cohesive strategies cannot be described as "normal." Data from studies examining student perception of textual cohesion using the framework of the writing-reading systems model lend support to the general hypothesis that linguistic facility and background knowledge and experience, as well as control over textual cohesion, increase as students develop greater language ability. (JL)

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The Writer, the Reader and the Text:

or Writhing and Reeling in Texta

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Paper presented at the United Kingdom Reading Association Nineteenth Annual Conference, Newcastle-upon-Tyne Polytechnic, Newcastle, July 1982.

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The theme of this year's Conference recognises the interactive nature of reading and also that this interaction takes place within a given context. This paper seeks to explore this theme by analysing the complex network of interactions of writer, reader, text and context, by examining the strategies writers use in constructing text, and by gauging readers' attempts at reconstructing text.

In trying to encapsulate these purposes into a title, I found inspiration in the writings of Lewis Carrol. While I was still pondering over the words of the Mock Turtle, a little girl of my acquaintance, not unlike Alice, said,"Are you preparing a Professor's talk? Can I see?" And looking over my shoulder she read, for at that stage all I had written was "The Writer, the Reader and the Text". "What's that?" she asked, pointing to ... and the Text. "What does it seem to you I countered to give time to think of a suitable reply. "In texta?" she answered hesitantly. When I smiled, she said, "Ooh, they'll like that".

The starting point for this paper is that the writing-reading process is a total interacting system. Reading begins with writing and, whether the focus is on writing or reading, there is always a text; and, further, writing and reading always occur in a given context. The interactions among writer, reader, text and context are then examined in order to explore readers' increasing control over lexical items, syntax and cohesion - the forms by which text is encoded. In particular, the focus turns upon linguists' analyses of writers' use of co-reference (the method for keeping track of people, objects and places in text), of conjoining (the way parts of text are logically related), and of co-extension (the selection of lexical items for particular content or purpose) and the way in which these strategies of writers are perceived by readers.

The writing-reading process - a total interacting system

The writing-reading process may be conceived as comprising four sub-systems. First, there is the writer or encoder; second, the text or message encoded by the writer; third, the reader who decodes the text; and fourth, the context or communicative environment in which the encoding and decoding take place. Where opinions differ with regard to these sub-systems, is in the interactions thought to operate between them, thus giving rise

to top-down as against bottom-up theories of reading, or inside-out as against outside-in explanations of the reading process. The view taken here is that the writing-reading process is best seen as a total interacting system with complex interactions between the four sub-systems (see Figure 1).

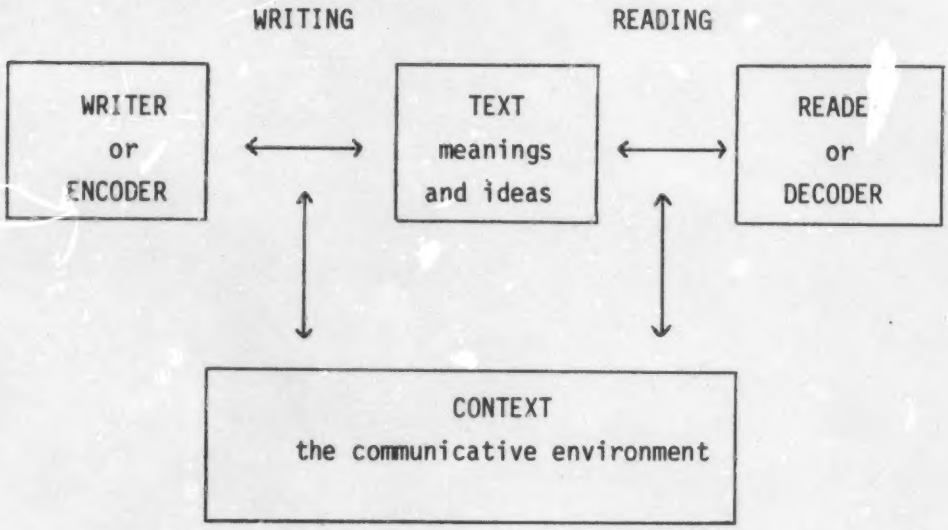

FIGURE 1

Writing and reading as a total interacting system

The writer and the reader

In communication terms, writers are the source of messages; they have certain ideas and thoughts they wish to communicate. In encoding or expressing these, the information is transformed into words which in turn are transformed into graphic symbols. In so doing, writers bring to the writing task all their encoding habits - the product of their accumulated knowledge and experience, knowledge of the world and knowledge of language; they bring too their attitudes, their values, their associations, their purposes, as well as their assumptions about language and about text.

Similarly, readers, in order to decode the expression of thoughts and ideas, bring to the reading task their accumulated knowledge, their background and experience, including their facility with language, knowledge of vocabulary and syntax, all their assumptions about language and about text, their attitudes, values, associations and purposes.

The text and the context

The text or the message comprises the thoughts, ideas and meanings that have been encoded by the writer and which, if the message is to reach its destination, need to be decoded by the reader. Although comprising thoughts and ideas, texts appear as sequences of graphic symbols, representing words and arrangements of words according to certain rules, for texts are semantic units (Halliday and Hasan 1980).

The coding of text (both encoding and decoding) always takes place within a particular communicative environment, depicted in Figure 1 as the context. This communicative environment comprises all the external forces, the socio-cultural conditions of time and place, the setting or the situation, that influence the writer during encoding, that influence too the way in which the text is produced, and also the way it is decoded by the reader.

The network of interactions

The complex interactions among the sub-systems in Figure 1 are described by Tierney and Mosenthal (1980) in this way:

> ...an author searches for the words which will create appropriate connotations for the readers of the text. This implies that an author needs to know something about a reader's thoughts including background of experience and interests. It implies that the author has prescribed and can predict the reader's context. (Tierney and Mosenthal 1980 p.2).

This network of complex interactions is seen to good effect in letter writing for here the author/writer is usually wanting to communicate with a specific reader. The reader's context is therefore often known and all of this determines to a large degree the text itself. By the same token, the reader usually knows something of the background of the writer and the context in which the text was written, and these factors in turn influence the way in which the text is read and interpreted.

Consider the following letter written to a five-year-old boy, Noël Moore, who had been suffering from a long illness. The writer was a long-standing friend of the family and knew much about what interested children and, in particular, Noël. This is what she wrote: the date 1893.

Eastwood
Dunkeld
Sep 4th 93

My Dear Noël,

I don't know what to write to you, so I shall tell you a story about four little rabbits whose names were
Flopsy, Mopsy, Cottontail
and Peter.
They lived with their mother in a sand bank under the root of a big fir tree...

We know that this letter was treasured by young Noël, and no doubt read and re-read, for eight years later the writer wrote to his mother asking if by any chance Noël had kept the letter. Thirteen-year-old Noël still had it and so it was that in 1901 The Tale of Peter Rabbit was published to sell for 1/2d a copy. The writer, of course, Beatrix Potter.

It is of interest to note that Beatrix Potter had rather definite ideas of how the text should be presented (a further instance of interaction of writer and text):

> ...a small child's book should be - very small itself, little more than five inches by four, with only one or two sentences on each page and a picture every time one turned over. It was in fact very much like Noël's letter... (Lane 1968, p.62).

Usefulness of the interaction model

It is not a property of models that they be true or not true but rather that they be useful or not useful. A globe, for instance, neither truly nor accurately represents many characteristics of our world and yet, for certain purposes, it provides a useful representation. Similarly, the outline of the model in Figure 1 may be useful to the extent that it provides a framework for established facts, and in so far as it explains phenomena and suggests hypotheses.

The letter from Beatrix Potter to Noël Moore illustrates that where the background, experiences and interests of writer and reader closely correspond, communication is likely to be enhanced. On the basis of the model we may perhaps further predict that where there is little correspondence or little interaction between writer and reader, in other words minimal shared knowledge or background, communication is likely to be diminished. A similar prediction might be made too where the reader's context differs from that of the writer's.

The studies of Bransford and Johnson (1972), for example, emphasise the importance of shared context for understanding. These authors asked subjects to read passages such as the following:

> If the baloons popped, the sound wouldn't be able to carry since everything would be too far away from the correct floor. A closed window would also prevent the sound from carrying, since most buildings tend to be well insulated. Since the whole operation depends on a steady flow of electricity, a break in the middle of the wire would also cause problems. Of course, the fellow could shout, but the human voice is not loud enough to carry that far. An additional problem is that a string could break on the instrument. Then there could be no accompaniment to the message. It is clear that the best situation would involve less distance. Then there would be fewer potential problems. With face to face contact, the least number of things could go wrong (Bransford and Johnson 1972, p.719).

If subjects were initially shown a picture of a guitar player, with loudspeaker held aloft by baloons, serenading his girlfriend who lived in a multi-storeyed building, comprehension was much increased. Teale (1979) in his analysis of these studies concluded that:

> ...the studies demonstrate that the degree of reading comprehension depends substantially upon the contextual information possessed by the reader. In these studies extra-linguistic knowledge about the passage constituted part of the readers' contextual information and as such played a significant role in comprehension of the passage itself (Teale 1979, p.128).

Components of the text sub-system

Whereas control analysis focuses on the source (the writer) and audience analysis focuses on the receiver (the reader), text or content analysis focuses on the message. To explore further the model of the writing-reading system in Figure 1, we narrow our attention now to some of the components of the text sub-system.

It has been noted already that text is a semantic unit comprising meanings which writers feel the need to express, and that for meanings to be communicated they must first be coded into words which in turn must be coded into the graphic symbols of the alphabetic writing system. Words, then, or lexical items, are units of meaning in writing and reading. However, as Huey (1908) noted long ago, words are functional and "...their main function is to help express a total meaning which always requires or implies their association together with other words". The arrangement of words into phrases, clauses and sentences is termed syntax; and the arrangement or interconnections of sentences is termed cohesion. These components of the text sub-system are shown in Figure 2.

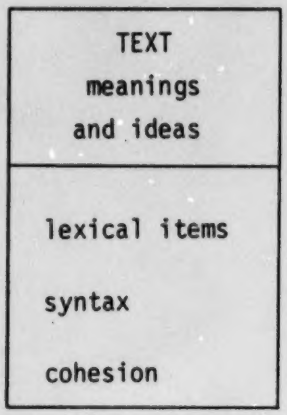

FIGURE 2

Components of the text sub-system

There have been many studies of both writers' and readers' increasing control and mastery over lexical items (growth in vocabulary studies) and over syntax (the development of syntactic maturity). It is not the purpose here to discuss these. Instead we focus on the lesser-known concept of cohesion and present some findings from a major on-going developmental study of students' perception of textual cohesion (Chapman 1980, 1981, 1982).

The concept of cohesion

To discuss the concept of cohesion at a UKRA conference is like bringing coal to Newcastle. Reading teachers in the U.K. are probably much more

familiar with cohesion than teachers in North America, and certainly than teachers in Australia. This is due in part to the course offered by The Open University on Language Development (Chapman 1979) and in part to the fact that the topic has featured prominently in previous UKRA conferences. I may therefore be brief.

Until relatively recently most linguists confined their attention to units no larger than a sentence despite the fact that most language communication is rarely limited to single sentences. A few linguists are beginning now to explore the frontiers beyond the sentence and it is to these that we now refer. R. Chapman (1973) quotes from Harris who in 1963 coined the term discourse analysis:

> Discourse analysis is a method of seeking in any connected discrete linear material, whether language or language-like, which contains more than one elementary sentence, some global structure characterising the whole discourse (the linear material), or large sections of it (Quoted by R. Chapman 1973, p.101).

Gutwinski (1976) made a study of cohesion in literary texts. The seminal work on cohesion is that of Halliday and Hasan (1976). A series of studies of cohesion in Scandanavia are collected in Östman (1978). In the U.K. the work of Chapman has already been referred to. As a central concept in the text sub-system, cohesion would appear to be potentially important in writing, as well as reading.

While syntax or grammatical structure may account for arrangements among lexical items within the sentence, cohesion refers to the non-structural resources of language needed to account for relations between sentences. Halliday, in his most recent writings (in press), states that cohesion is created in English in four ways: by reference, ellipsis, conjunction and lexical organisation. (Those familiar with the categories of cohesion outlined in Halliday and Hasan (1976) will note that ellipsis now subsumes substitution). The following two-sentence text (from Anderson 1982a) illustrates these major categories of cohesion:

> Dobell did not often paint pictures of city scenes.
> But he did this one of the streets of Sydney.

The two sentences are connected by the use of But, an instance of conjunction.

The use of he in the second sentence refers back to Dobell and is an example of reference. In the second sentence, too, it is necessary to refer back to find what action did substitutes for and what one is, thus exemplifying ellipsis (and substitution). There is a further relationship between the lexical items city scenes in the first sentence and streets of Sydney in the second, an instance of lexical cohesion.

These cohesive mechanisms are part of the strategies that writers use

- for linking people, objects and places in text
- for joining parts of text together
- for defining the content domain of text.

Linking people, objects and places

When writers introduce people, objects and places into text and then keep track of these, the type of cohesion principally used is reference; and maintaining this relationship of identity is termed co-reference. Consider, for example, how, by the use of he, his and there, the rhymster keeps track of character and place in the following rhyme:

> Dr. Foster went to Gloucester in a shower of rain. He stepped
> in a puddle right up to his middle and never went there again.

We might note in passing that the pronoun he is ellipsed before the word never, a strategy writers sometimes adopt as a form of shorthand. This instance of ellipsis also maintains the identity of relationship with Dr. Foster in the first sentence.

Joining parts of text

When writers use an explicit connective to join one section of text to another, the type of cohesion relation is termed conjunction; and the semantic relationship thus formed is here termed conjoining. Connectives (single words or phrases) are typically used to signal logical relations, such as in the sequence of additive, causal and adversative relations in the following rhyme:

> Old Mother Hubbard went to the cupboard,
> to fetch her poor dog a bone.
> When she got there, the cupboard was bare.
> And so the poor dog got none.
> She went to the baker to buy him some bread.
> But when she got back, the poor dog was dead.

Defining the content domain

In any description, exposition or narrative account, writers typically use lexical items drawn from a restricted domain, the subject matter to some extent prescribing their choice. By the writer's use, for instance, of reiteration and the association between lexical items, readers are able to gain an impression of the overall content of text. This strategy of writers, termed lexical cohesion, is evident in the following rhyme:

> Little Boy Blue, come blow up you horn.
> The sheep's in the meadow; the cow's in the corn.
> Where's the boy that looks after the sheep?
> He's under the haycock fast asleep.
> Will you waken him? No not I!
> For if I do he's sure to cry.

There is reiteration here (e.g. boy, sheep) though some is disguised and more usually categorised as ellipsis (e.g. Will you waken him? No I [will] not [waken him]! For if I do [wake him]...). There is also lexical association (e.g. sheep/cow; meadow/corn/haycock; asleep/waken; little boy/cry). By the use of particular lexical items and by the associations that these trigger in the reader, the writer thus prepares the scene for what is to follow. This kind of semantic relationship Hasan terms co-extension (Halliday and Hasan 1980).

Cohesion in texts

A rather interesting observation about the semantic relations noted above (co-reference, conjoining and co-extension) is that regular texts typically exhibit all types of relation. In one sense perhaps, it may not surprise that the linking of people, objects and places, the explicit joining of parts of text together, and the defining of a content domain should be characteristic of all texts. However, as Hasan has observed, the absence of one of these types of relation serves to explain why neither of the following can really be described as "normal texts" (Halliday and Hasan 1980, p.50):

> John gets up early. He is Freddy's neighbour.
> My house is next to his. The third one is painted blue.

> A cat is sitting on a fence. A fence is often made of wood.
> Carpenters work with wood. Wood planks can be bought from
> a lumber store.

The strangeness about the first of these examples is that although there is apparent co-reference (he, his referring to John), the absence of lexical cohesion leave one vaguely uneasy about the text as a whole. Similarly, the second example, while having a high semblence of cohesion with the reiteration of fence, fence, wood, wood, wood, and the association of planks and lumber, also appears rather strange because of the absence of co-reference. Enkvist (1978) describes texts such as the second one above as pseudo text, or, rather, as pseudo-coherent.

Students' perception of cohesion

If, as has been stated above, these cohesive linking mechanisms are part of the strategies writers use in their encoding of text, it would seem important to investigate how readers in their decoding of text perceive these linking mechanisms, This, in fact, is the major aim of the longitudinal research project being undertaken at The Open University into students' perception of textual cohesion (Chapman 1980, 1981, 1982). To conclude this paper we turn now to an examination of a very small section of this enormously rich data base, using as a broad framework the model of the writing-reading system (Figure 1).

By holding constant the writer and text sub-systems and controlling the context sub-system, the model would lead one to predict that readers' decoding of text will be a function of factors within the reader sub-system, that is will depend on the degree to which background knowledge and experience, facility with language, and so on, interact with the other sub-systems. By manipulating these reader variables, this prediction can be tested. Chapman (1982) has described in some detail how texts from certain writers were selected and how in the first phase of the longitudinal project these texts were administered to 8, 11 and 13 year-olds with instructions to complete the cohesive ties, one end of which was deleted in the text. The underlying rationale was that to the extent that readers perceive the ties writers use, so they will be successful in the task. Some of the same texts were subsequently administered to a group for whom English was a second language (the ESL group). (This latter study, described in Anderson (1982b), was funded by the Research Committee of the Faculty of Educational Studies at The Open University and the assistance afforded is duly acknowledged).

Analysis of one of the anchor texts

In Figure 3 is displayed one of the anchor texts administered to 8 year-olds (N=184), 11 year-olds (N=142), and 14 year-olds (N=168) in Cambridgeshire and also to the ESL group (N=59) in Bedfordshire. Items numbered 63, 64 and 65 are instances respectively of what were termed above co-reference, conjoining and co-extension; item 62, which does not fall into any of the categories of cohesion, was included as a kind of control (ie., a non-cohesive item). In the analyses reported below, each of the age groups were sub-divided into thirds on the basis of their scores on a reading test such that there was a high and a low reading group (the middle group was not analysed). Thus the model prediction could be tested for three age groups, for two reading ability groups, and for native and non-native speakers.

Tables 1 - 4 show the responses of students in the six age/reading ability groups and in the ESL group to the co-reference, conjoining and co-extension items and to the non-cohesive item. In each case only those responses have been recorded which were judged to complete the cohesive tie or, in the case of the non-cohesive item, to complete the meaning. To facilitate comparison response frequencies have been converted to percentages.

Discussion

In each Table the first response is the actual word chosen by the writer - the pronoun they (Table 1), the conjunction so (Table 2), the lexical collocate country (Table 3), and the adjective best (Table 4). The remaining responses in each Table are those judged acceptable in completing the cohesive tie or in otherwise completing the meaning. In the case of the pronoun in Table 1, other acceptable responses are repetition of the pre-supposed item (labradors) and use of the superordinate (retrievers). In Table 2 similarly, a range of connectives, besides the conjunction so, may be deemed acceptable, for what is important in this reconstruction is that readers recognise the need for some conjoining term, be it a single word or a phrase like it doesn't matter or of course. Likewise in Table 3, a range of acceptable collocates was elicited; and in Table 4, an even wider range of synonymous terms.

Labrador Retrievers

Labradors are famous for their obedience, and they are one of the _____ breeds for training as Guide Dogs for the Blind. Not all kinds learn as well as _____ do, of course, but every dog should be taught to obey. This is not because we can then enter our pet for the Obedience Class at a Dog Show, or because they will be nicer around the house. It is because an obedient dog is *safe*, both for itself and for people. A dog that does not answer commands, and runs into the road, can easily be killed or cause a bad accident. 62 63

_____ whatever kind of dog we have, we should give it some simple training or perhaps take it to the classes that are held in many towns. First of all, teach it to walk at heel instead of dragging you along; then to sit when told, especially on the edge of a busy road before crossing. Some owners think their dogs are so well behaved that they can go on roads without a lead, but it is far better to keep the lead on until you come to a park or open space. Obedience is just as important in the _____, as well, where a dog must learn to come immediately it is called. 64 65

FIGURE 3

Anchor text administered to all age groups and ESL group

TABLE 1

Percentage of students in seven groups responding with items judged to complete cohesive tie (co-reference item : they)

Responses	13-yr-olds		11-yr-olds		8-yr-olds		ESL
	High	Low	High	Low	High	Low	
they	38	25	27	31	35	10	29
labradors	16	18	19	10	7	-	2
retrievers	-	-	2	-	-	-	-
Totals	54	43	48	41	42	10	31

TABLE 2

Percentage of students in seven groups responding with items judged to complete cohesive tie (conjoining item : so)

Responses	13-yr-olds		11-yr-olds		8-yr-olds		ESL
	High	Low	High	Low	High	Low	
so	32	20	27	12	25	-	10
but	32	23	27	18	18	3	14
and	-	13	8	12	12	20	12
therefore	5	-	2	-	-	-	-
then	4	2	4	2	6	1	17
however	4	-	2	-	-	-	-
no matter/it doesn't matter	4	5	4	-	-	-	-
though	4	-	2	4	-	-	-
thus	2	-	-	-	-	-	-
now	2	2	-	4	-	-	-
yet	2	-	-	-	-	-	-
because	2	2	6	-	-	1	-
anyway	-	5	4	2	3	-	-
however	-	3	-	4	1	-	-
of course	-	-	2	-	-	-	-
well	-	-	2	4	-	-	-
Totals*	91	80	88	63	65	25	53

* Due to rounding sub-totals do not always sum to totals.

TABLE 3

Percentage of students in seven groups responding with items judged to complete cohesive tie (co-extension item : country)

Responses	13-yr-olds		11-yr-olds		8-yr-olds		ESL
	High	Low	High	Low	High	Low	
country	5	5	6	4	-	-	-
park	39	23	35	18	15	-	7
parks	2	-	2	-	-	-	-
home	23	3	10	2	1	-	-
homes	-	-	-	2	-	-	-
house	13	8	10	10	9	1	3
houses	-	-	-	-	1	-	2
countryside	-	-	4	-	-	-	-
field	2	-	-	-	-	-	-
fields	-	-	2	-	-	-	-
open	2	-	-	-	-	-	-
open space	-	2	-	-	-	-	-
garden	-	-	-	2	-	-	-
world	-	-	8	2	1	-	7
school	-	-	-	-	-	-	2
Totals*	86	42	73	41	28	1	20

* Due to rounding sub-totals do no always sum to totals.

TABLE 4

Percentage of students in seven groups responding with items judged to complete meaning (non-cohesive item : best)

Responses	13- yr-olds High	13- yr-olds Low	11-yr-olds High	11-yr-olds Low	8-yr-olds High	8-yr-olds Low	ESL
best	68	67	67	57	47	10	24
common/commonest	2	-	6	4	-	-	-
famous/most famous	2	3	-	2	6	4	8
favourite	4	-	-	-	-	-	-
few	4	5	6	2	-	1	-
good	2	3	2	4	4	-	-
many	5	-	6	8	3	-	-
main	4	-	2	-	-	-	-
nice/nicest	-	2	-	-	3	3	2
only	4	-	-	-	-	-	-
top	2	-	4	4	-	-	-
bad	-	-	-	-	-	-	2
beautiful	-	-	-	-	-	-	2
cleverest	2	-	-	-	-	-	-
different	-	-	-	2	-	1	-
favourable	2	-	-	-	-	-	-
finest	-	2	-	-	-	-	-
hard	-	-	-	-	-	-	2
important	-	-	-	-	-	-	2
intelligent	-	2	-	-	-	-	-
largest	-	2	-	-	-	-	-
leading	-	2	-	-	-	-	-
little	-	-	-	-	-	1	-
kind/kindest	-	-	-	-	1	1	2
pedigree	-	2	-	-	-	-	-
popular	-	-	-	2	1	-	-
rarest	-	-	-	-	1	-	-
recognised	2	-	-	-	-	-	-
red	-	-	-	-	-	-	2
retriever	-	-	2	-	-	-	-
safest	-	2	-	-	-	-	-
sensible	-	2	-	-	-	-	-
small	-	-	-	-	1	-	-
special	-	2	-	-	-	-	-
two	-	2	2	-	-	-	-
usual	-	-	2	-	-	-	-
working	-	-	-	-	-	1	-
Totals*	100	95	98	86	69	24	44

* Due to rounding sub-totals do no always sum to totals.

Although there are just four items analysed here, some interesting observations can be made. First, for all items the total percentages of acceptable responses show, as predicted, that older groups are more successful than younger groups, high ability reading groups more successful than low ability reading groups, and native speakers more successful than non-native speakers. What is particularly noteworthy about these results is, not so much that all predictions are confirmed, but that the same trends are not nearly so apparent if analysis is restricted just to the author's chosen word. In other words, the widening of the criterion for acceptability to include items completing the cohesive tie appears, at least for the items of this text, to increase the validity of the measure employed.

A second fairly obvious observation is that the co-reference item elicited the fewest number of acceptably different responses (a closed set) whereas the non-cohesive item elicited most (an open set). The conjoining and co-extension items were in an intermediate position. Third, it may be observed that as one moves along the continuum from closed to open sets, there is a general trend for the high ability reading group within each age group to produce a wider range of responses compared with the low ability reading group. Fourth, somewhat paradoxically, the closed set elicited the lowest percentage of acceptable responses and the open set the highest, with again the conjoining and co-extension items in an intermediate position.

It would be a mistake, of course, to generalise on the basis of this small-scale analysis for, in a general interaction model such as the one posited, other linguistic and extra-linguistic factors operate. Nevertheless, there are some trends here that would be worth exploring further in the wider longitudinal project of which these data are a part.

Thus far, little has been said directly about the diagnostic significance of the kind of analysis reported here. It may be observed, for example, that the additive conjunction <u>and</u> is selected more often by the ESL and low reading ability groups than by the high reading ability groups. Further, while the ESL group generally performs a little below the 8 year-old high reading ability group, the number of different responses elicited by the ESL group is generally the smallest of all seven groups. Again, this kind of qualitative analysis is to be investigated more extensively in the longitudinal project.

Summary

The purpose of this paper has been to explore some of the ramifications of a model that sees reading as part of a wider writing-reading interaction system. Some of the cohesive mechanisms writers use in encoding text are examined, particularly the mechanism for keeping track of people, objects and places in text (co-reference), for joining parts of text together (conjoining), and for defining the content domain of text (co-extension). Some preliminary analysis of data drawn from a longitudinal project into students' perception of textual cohesion lend support to the general hypothesis that, as students develop in language, linguistic facility and background knowledge and experience, so their control over textual cohesion increases.

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